David J Gavaghan

List of Publications by Year
in descending order

198 papers	26,191 citations	53794 45 h-index	6471 157 g-index
223 all docs	223 docs citations	223 times ranked	23972 citing authors

#	Article	IF	Citations
1	Assessing the quality of reports of randomized clinical trials: Is blinding necessary?. Contemporary Clinical Trials, 1996, 17, 1-12.	1.9	16,054
2	Publication and related bias in meta-analysis. Journal of Clinical Epidemiology, 2000, 53, 1119-1129.	5.0	1,768
3	Size is everything â€“ large amounts of information are needed to overcome random effects in estimating direction and magnitude of treatment effects. Pain, 1998, 78, 209-216.	4.2	573
4	Chaste: An Open Source C++ Library for Computational Physiology and Biology. PLoS Computational Biology, 2013, 9, e1002970.	3.2	375
5	Simulation of multiple ion channel block provides improved early prediction of compoundsâ€™ clinical torsadogenic risk. Cardiovascular Research, 2011, 91, 53-61.	3.8	282
6	An evaluation of homogeneity tests in meta-analyses in pain using simulations of individual patient data. Pain, 2000, 85, 415-424.	4.2	231
7	Deriving dichotomous outcome measures from continuous data in randomised controlled trials of analgesics. Pain, 1996, 66, 229-237.	4.2	220
8	Deriving dichotomous outcome measures from continuous data in randomised controlled trials of analgesics: use of pain intensity and visual analogue scales. Pain, 1997, 69, 311-315.	4.2	211
9	Chaste: A test-driven approach to software development for biological modelling. Computer Physics Communications, 2009, 180, 2452-2471.	7.5	207
10	Development of an anatomically detailed MRI-derived rabbit ventricular model and assessment of its impact on simulations of electrophysiological function. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H699-H718.	3.2	192
11	Comparing individual-based approaches to modelling the self-organization of multicellular tissues. PLoS Computational Biology, 2017, 13, e1005387.	3.2	185
12	Deriving dichotomous outcome measures from continuous data in randomised controlled trials of analgesics: verification from independent data. Pain, 1997, 69, 127-130.	4.2	171
13	Metabolic changes during carcinogenesis: Potential impact on invasiveness. Journal of Theoretical Biology, 2007, 244, 703-713.	1.7	164
14	Oral morphine in cancer pain: influences on morphine and metabolite concentration. Clinical Pharmacology and Therapeutics, 1990, 48, 236-244.	4.7	156
15	Troubling Trends in Scientific Software Use. Science, 2013, 340, 814-815.	12.6	151
16	Multi-scale computational modelling in biology and physiology. Progress in Biophysics and Molecular Biology, 2008, 96, 60-89.	2.9	149
17	An integrative computational model for intestinal tissue renewal. Cell Proliferation, 2009, 42, 617-636.	5.3	142
18	The role of acidity in solid tumour growth and invasion. Journal of Theoretical Biology, 2005, 235, 476-484.	1.7	140

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19	Generation of histo-anatomically representative models of the individual heart: tools and application. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2257-2292.	3.4	135
20	Implementing vertex dynamics models of cell populations in biology within a consistent computational framework. Progress in Biophysics and Molecular Biology, 2013, 113, 299-326.	2.9	135
21	Uncertainty and variability in models of the cardiac action potential: Can we build trustworthy models?. Journal of Molecular and Cellular Cardiology, 2016, 96, 49-62.	1.9	113
22	A hybrid approach to multi-scale modelling of cancer. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 5013-5028.	3.4	103
23	Information visualisation for science and policy: engaging users and avoiding bias. Trends in Ecology and Evolution, 2014, 29, 148-157.	8.7	95
24	Development of a functional magnetic resonance imaging simulator for modeling realistic rigid-body motion artifacts. Magnetic Resonance in Medicine, 2006, 56, 364-380.	3.0	91
25	Three-Dimensional Models of Individual Cardiac Histoanatomy: Tools and Challenges. Annals of the New York Academy of Sciences, 2006, 1080, 301-319.	3.8	89
26	Prediction of Thorough QT study results using action potential simulations based on ion channel screens. Journal of Pharmacological and Toxicological Methods, 2014, 70, 246-254.	0.7	80
27	Synthesis of Voltage-Sensitive Optical Signals: Application to Panoramic Optical Mapping. Biophysical Journal, 2006, 90, 2938-2945.	0.5	79
28	Variability in high-throughput ion-channel screening data and consequences for cardiac safety assessment. Journal of Pharmacological and Toxicological Methods, 2013, 68, 112-122.	0.7	79
29	Predicting Tumor Location by Modeling the Deformation of the Breast. IEEE Transactions on Biomedical Engineering, 2008, 55, 2471-2480.	4.2	77
30	Resistance, Capacitance, and Electrode Kinetic Effects in Fourier-Transformed Large-Amplitude Sinusoidal Voltammetry:â€‰ Emergence of Powerful and Intuitively Obvious Tools for Recognition of Patterns of Behavior. Analytical Chemistry, 2004, 76, 6214-6228.	6.5	73
31	The Role of Photon Scattering in Optical Signal Distortion during Arrhythmia and Defibrillation. Biophysical Journal, 2007, 93, 3714-3726.	0.5	71
32	A numerical guide to the solution of the bidomain equations of cardiac electrophysiology. Progress in Biophysics and Molecular Biology, 2010, 102, 136-155.	2.9	71
33	Rabbit-specific ventricular model of cardiac electrophysiological function including specialized conduction system. Progress in Biophysics and Molecular Biology, 2011, 107, 90-100.	2.9	62
34	Evaluation of an in silico cardiac safety assay: Using ion channel screening data to predict QT interval changes in the rabbit ventricular wedge. Journal of Pharmacological and Toxicological Methods, 2013, 68, 88-96.	0.7	62
35	Retuning the Catalytic Bias and Overpotential of a [NiFe]-Hydrogenase via a Single Amino Acid Exchange at the Electron Entry/Exit Site. Journal of the American Chemical Society, 2017, 139, 10677-10686.	13.7	62
36	Chaste: using agile programming techniques to develop computational biology software. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 3111-3136.	3.4	61

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37	The Systems Biology Approach to Drug Development: Application to Toxicity Assessment of Cardiac Drugs. Clinical Pharmacology and Therapeutics, 2010, 88, 130-134.	4.7	60
38	Chaste: Cancer, Heart and Soft Tissue Environment. Journal of Open Source Software, 2020, 5, 1848.	4.6	58
39	Extended electron transfer and the Frumkin correction. Journal of Electroanalytical Chemistry, 2000, 491, 103-110.	3.8	55
40	Uncertainty quantification of fast sodium current steady-state inactivation for multi-scale models of cardiac electrophysiology. Progress in Biophysics and Molecular Biology, 2015, 117, 4-18.	2.9	55
41	Computational modelling of cardiac electrophysiology: explanation of the variability of results from different numerical solvers. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 890-903.	2.1	54
42	Sinusoidal voltage protocols for rapid characterisation of ion channel kinetics. Journal of Physiology, 2018, 596, 1813-1828.	2.9	54
43	Four Ways to Fit an Ion Channel Model. Biophysical Journal, 2019, 117, 2420-2437.	0.5	53
44	A Cell Cycle Model for Somitogenesis: Mathematical Formulation and Numerical Simulation. Journal of Theoretical Biology, 2000, 207, 305-316.	1.7	52
45	Cardiac tissue slices: preparation, handling, and successful optical mapping. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 308, H1112-H1125.	3.2	52
46	Review of automatic pulmonary lobe segmentation methods from CT. Computerized Medical Imaging and Graphics, 2015, 40, 13-29.	5.8	51
47	eDiamond: A Grid-Enabled Federated Database of Annotated Mammograms. , 0, , 923-943.		48
48	The Dynamics and Pinning of a Spike for a Reaction-Diffusion System. SIAM Journal on Applied Mathematics, 2002, 62, 1297-1328.	1.8	47
49	Ten Simple Rules for Effective Computational Research. PLoS Computational Biology, 2014, 10, e1003506.	3.2	47
50	Variation of venous admixture, SF 6 shunt, P a O2 , and the P a O2 / F i O2 ratio with F i O2. British Journal of Anaesthesia, 2002, 88, 771-778.	3.4	46
51	Soft Tissue Modelling of Cardiac Fibres for Use in Coupled Mechano-Electric Simulations. Bulletin of Mathematical Biology, 2007, 69, 2199-2225.	1.9	46
52	Ten Simple Rules for a Successful Cross-Disciplinary Collaboration. PLoS Computational Biology, 2015, 11, e1004214.	3.2	46
53	Mathematical modelling of oxygen transport to tissue. Journal of Mathematical Biology, 2002, 44, 503-522.	1.9	45
54	Multiscale cardiac modelling reveals the origins of notched T waves in long QT syndrome type 2. Nature Communications, 2014, 5, 5069.	12.8	45

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55	Contrast-Independent Curvilinear Structure Detection in Biomedical Images. IEEE Transactions on Image Processing, 2012, 21, 2572-2581.	9.8	44
56	The role of the Hes1 crosstalk hub in Notch-Wnt interactions of the intestinal crypt. PLoS Computational Biology, 2017, 13, e1005400.	3.2	44
57	Tailoring Mathematical Models to Stem-Cell Derived Cardiomyocyte Lines Can Improve Predictions of Drug-Induced Changes to Their Electrophysiology. Frontiers in Physiology, 2017, 8, 986.	2.8	42
58	Mathematical models in physiology. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1099-1106.	3.4	41
59	The Interaction of Phospholipase A2 with a Phospholipid Bilayer: Coarse-Grained Molecular Dynamics Simulations. Biophysical Journal, 2008, 95, 1649-1657.	0.5	41
60	Probabilistic Inference on Noisy Time Series (PINTS). Journal of Open Research Software, 2019, 7, 23.	5.9	41
61	Using evidence from different sources: an example using paracetamol 1000 mg plus codeine 60 mg. BMC Medical Research Methodology, 2001, 1, 1.	3.1	40
62	Effects of propofol and thiopentone, and benzodiazepine premedication on heart rate variability measured by spectral analysis. British Journal of Anaesthesia, 1995, 74, 168-173.	3.4	39
63	A Two-Dimensional Model of the Colonic Crypt Accounting for the Role of the Basement Membrane and Pericryptal Fibroblast Sheath. PLoS Computational Biology, 2012, 8, e1002515.	3.2	39
64	Rapid Characterization of hERG Channel Kinetics I: Using an Automated High-Throughput System. Biophysical Journal, 2019, 117, 2438-2454.	0.5	39
65	SGTx1, a Kv Channel Gating-Modifier Toxin, Binds to the Interfacial Region of Lipid Bilayers. Biophysical Journal, 2007, 92, L07-L09.	0.5	38
66	Rapid Characterization of hERG Channel Kinetics II: Temperature Dependence. Biophysical Journal, 2019, 117, 2455-2470.	0.5	38
67	Accounting for variability in ion current recordings using a mathematical model of artefacts in voltage-clamp experiments. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190348.	3.4	38
68	The role of the Na+/Ca2+ exchangers in Ca2+ dynamics in ventricular myocytes. Progress in Biophysics and Molecular Biology, 2008, 96, 377-398.	2.9	37
69	Adaptative finite element simulation of currents at microelectrodes to a guaranteed accuracy. Application to a simple model problem. Electrochemistry Communications, 2000, 2, 150-156.	4.7	36
70	Pooling data for Number Needed to Treat: no problems for apples. BMC Medical Research Methodology, 2002, 2, 2.	3.1	36
71	Predicting Tumour Location by Simulating Large Deformations of the Breast Using a 3D Finite Element Model and Nonlinear Elasticity. Lecture Notes in Computer Science, 2004, , 217-224.	1.3	36
72	C haste : incorporating a novel multi-scale spatial and temporal algorithm into a large-scale open source library. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 1907-1930.	3.4	36

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73	Two-dimensional implementation of the finite element method with singularity correction for diffusion limited current at an unshielded disc electrode. Journal of Electroanalytical Chemistry, 1995, 394, 17-28.	3.8	35
74	Adaptative finite element simulation of currents at microelectrodes to a guaranteed accuracy. First-order ECâ€² mechanism at inlaid and recessed discs. Electrochemistry Communications, 2000, 2, 163-170.	4.7	35
75	Recent advances and future perspectives for automated parameterisation, Bayesian inference and machine learning in voltammetry. Chemical Communications, 2021, 57, 1855-1870.	4.1	35
76	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. Theory. Electrochemistry Communications, 2000, 2, 157-162.	4.7	34
77	Photon scattering effects in optical mapping of propagation and arrhythmogenesis in the heart. Journal of Electrocardiology, 2007, 40, S75-S80.	0.9	34
78	Inappropriate Use of the Quasi-Reversible Electrode Kinetic Model in Simulation-Experiment Comparisons of Voltammetric Processes That Approach the Reversible Limit. Analytical Chemistry, 2014, 86, 8408-8417.	6.5	34
79	A Comparison of Fully Automated Methods of Data Analysis and Computer Assisted Heuristic Methods in an Electrode Kinetic Study of the Pathologically Variable [Fe(CN)₆]^{3â€“/4â€“} Process by AC Voltammetry. Analytical Chemistry, 2013, 85, 11780-11787.	6.5	32
80	Progressive changes in T₁, T₂ and leftâ€ventricular histoâ€architecture in the fixed and embedded rat heart. NMR in Biomedicine, 2011, 24, 836-843.	2.8	31
81	A Bidomain Model of the Ventricular Specialized Conduction System of the Heart. SIAM Journal on Applied Mathematics, 2012, 72, 1618-1643.	1.8	31
82	Modelling the role of the basement membrane beneath a growing epithelial monolayer. Journal of Theoretical Biology, 2012, 298, 82-91.	1.7	30
83	Hydrodynamic dispersion within porous biofilms. Physical Review E, 2013, 87, 012718.	2.1	29
84	The <scp>zoon r</scp> package for reproducible and shareable species distribution modelling. Methods in Ecology and Evolution, 2018, 9, 260-268.	5.2	29
85	Post-genomic science: cross-disciplinary and large-scale collaborative research and its organizational and technological challenges for the scientific research process. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1533-1549.	3.4	28
86	Considerations for the use of cellular electrophysiology models within cardiac tissue simulations. Progress in Biophysics and Molecular Biology, 2011, 107, 74-80.	2.9	28
87	Mechano-logical model of C. elegans germ line suggests feedback on the cell cycle. Development (Cambridge), 2015, 142, 3902-11.	2.5	28
88	Lipid Bilayer Deformation and the Free Energy of Interaction of a Kv Channel Gating-Modifier Toxin. Biophysical Journal, 2008, 95, 3816-3826.	0.5	27
89	Theoretical Analysis of the Relative Significance of Thermodynamic and Kinetic Dispersion in the dc and ac Voltammetry of Surface-Confined Molecules. Langmuir, 2015, 31, 4996-5004.	3.5	27
90	Use of Bayesian Inference for Parameter Recovery in DC and AC Voltammetry. ChemElectroChem, 2018, 5, 917-935.	3.4	26

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91	Enabling computer models of the heart for high-performance computers and the grid. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1501-1516.	3.4	25
92	Models for pattern formation in somitogenesis: a marriage of cellular and molecular biology. Comptes Rendus - Biologies, 2002, 325, 179-189.	0.2	24
93	Interactions Between a Voltage Sensor and a Toxin via Multiscale Simulations. Biophysical Journal, 2010, 98, 1558-1565.	0.5	24
94	The Free Energy Landscape of Dimerization of a Membrane Protein, NanC. PLoS Computational Biology, 2014, 10, e1003417.	3.2	24
95	Colorectal cancer through simulation and experiment. IET Systems Biology, 2013, 7, 57-73.	1.5	23
96	Analysis of HypD Disulfide Redox Chemistry via Optimization of Fourier Transformed ac Voltammetric Data. Analytical Chemistry, 2017, 89, 1565-1573.	6.5	23
97	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. An E reaction at a channel microband electrode. Electrochemistry Communications, 2000, 2, 567-575.	4.7	22
98	Modelling tissue electrophysiology with multiple cell types: applications of the extended bidomain framework. Integrative Biology (United Kingdom), 2012, 4, 192.	1.3	22
99	Theoretical Analysis of the Two-Electron Transfer Reaction and Experimental Studies with Surface-Confined Cytochrome c Peroxidase Using Large-Amplitude Fourier Transformed AC Voltammetry. Langmuir, 2012, 28, 9864-9877.	3.5	22
100	Living cardiac tissue slices: An organotypic pseudo two-dimensional model for cardiac biophysics research. Progress in Biophysics and Molecular Biology, 2014, 115, 314-327.	2.9	22
101	Hodgkinâ€“Huxley revisited: reparametrization and identifiability analysis of the classic action potential model with approximate Bayesian methods. Royal Society Open Science, 2015, 2, 150499.	2.4	22
102	Hierarchical Bayesian inference for ion channel screening dose-response data. Wellcome Open Research, 2016, 1, 6.	1.8	22
103	Adaptive finite element simulation of chronoamperometry at microdisc electrodes. Electrochemistry Communications, 2003, 5, 519-529.	4.7	21
104	Reproducible model development in the cardiac electrophysiology Web Lab. Progress in Biophysics and Molecular Biology, 2018, 139, 3-14.	2.9	21
105	Hierarchical Bayesian inference for ion channel screening dose-response data. Wellcome Open Research, 0, 1, 6.	1.8	21
106	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. ECE and EC2E mechanisms at channel microband electrodes. Electrochemistry Communications, 2000, 2, 576-585.	4.7	20
107	Mathematical modelling of pulmonary gas transport. Journal of Mathematical Biology, 2003, 47, 79-99.	1.9	20
108	Pulmonary lobe segmentation from CT images using fissureness, airways, vessels and multilevel B-splines. , 2012, , .		20

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109	Comparing two sequential Monte Carlo samplers for exact and approximate Bayesian inference on biological models. Journal of the Royal Society Interface, 2017, 14, 20170340.	3.4	20
110	Some factors affecting oxygen uptake by red blood cells in the pulmonary capillaries. Mathematical Biosciences, 2001, 169, 153-172.	1.9	19
111	Non-linear modelling of breast tissue. Mathematical Medicine and Biology, 2007, 24, 327-345.	1.2	19
112	A Quantitative Systems Pharmacology Perspective on the Importance of Parameter Identifiability. Bulletin of Mathematical Biology, 2022, 84, 39.	1.9	19
113	Early afterdepolarisation tendency as a simulated pro-arrhythmic risk indicator. Toxicology Research, 2017, 6, 912-921.	2.1	18
114	Inference-based assessment of parameter identifiability in nonlinear biological models. Journal of the Royal Society Interface, 2018, 15, 20180318.	3.4	18
115	A Full Analytic Treatment of Reversible Linear-Scan Voltammetry with Square-Wave Modulation. Journal of Physical Chemistry B, 2002, 106, 152-157.	2.6	17
116	Adaptive Finite Element Methods in Electrochemistry. Langmuir, 2006, 22, 10666-10682.	3.5	17
117	Designer based Fourier transformed voltammetry: A multi-frequency, variable amplitude, sinusoidal waveform. Journal of Electroanalytical Chemistry, 2009, 634, 11-21.	3.8	16
118	Theoretical and experimental investigation of surface-confined two-center metalloproteins by large-amplitude Fourier transformed ac voltammetry. Journal of Electroanalytical Chemistry, 2011, 656, 293-303.	3.8	16
119	Multiparameter Estimation in Voltammetry When an Electron Transfer Process Is Coupled to a Chemical Reaction. Analytical Chemistry, 2016, 88, 4724-4732.	6.5	16
120	The effect of periodic modulation on the aperiodic current in linear-scan and cyclic voltammetries. Journal of Electroanalytical Chemistry, 2001, 516, 2-9.	3.8	15
121	Microring Electrodes:Â A Computational Study of Transport-Limited Processes. Journal of Physical Chemistry B, 2002, 106, 4886-4896.	2.6	15
122	Time dependent ECâ€², ECE and EC2E mechanisms at microdisc electrodes: simulations using adaptive finite element methods. Journal of Electroanalytical Chemistry, 2004, 569, 35-46.	3.8	15
123	Metabolic Alterations During the Growth of Tumour Spheroids. Cell Biochemistry and Biophysics, 2014, 68, 615-628.	1.8	15
124	Simulating social-ecological systems: the Island Digital Ecosystem Avatars (IDEA) consortium. GigaScience, 2016, 5, 14.	6.4	15
125	Analytical solution for the steady-state diffusion towards an inlaid disc microelectrode in a multi-layered medium. Journal of Electroanalytical Chemistry, 1997, 440, 1-25.	3.8	14
126	Multistability property in cardiac ionic models of mammalian and human ventricular cells. Progress in Biophysics and Molecular Biology, 2010, 103, 131-141.	2.9	14

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127	Leveraging e-Science infrastructure for electrochemical research. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 3336-3352.	3.4	14
128	A local sensitivity analysis method for developing biological models with identifiable parameters: Application to cardiac ionic channel modelling. Future Generation Computer Systems, 2013, 29, 591-598.	7.5	14
129	An investigation into the role of the optical detection set-up in the recording of cardiac optical mapping signals: A Monte Carlo simulation study. Physica D: Nonlinear Phenomena, 2009, 238, 1008-1018.	2.8	13
130	Access to enhanced differences in Marcusâ€“Hush and Butlerâ€“Volmer electron transfer theories by systematic analysis of higher order AC harmonics. Physical Chemistry Chemical Physics, 2013, 15, 2210-2221.	2.8	13
131	Integration of Heuristic and Automated Parametrization of Three Unresolved Twoâ€Electron Surfaceâ€Confined Polyoxometalate Reduction Processes by AC Voltammetry. ChemElectroChem, 2018, 5, 3771-3785.	3.4	13
132	The role of transmural ventricular heterogeneities in cardiac vulnerability to electric shocks. Progress in Biophysics and Molecular Biology, 2008, 96, 321-338.	2.9	12
133	Models and Their Limitations in the Voltammmetric Parameterization of the Sixâ€Electron Surfaceâ€Confined Reduction of [PMo₁₂O₄₀]^{3â^'} at Glassy Carbon and Boronâ€Doped Diamond Electrodes. ChemElectroChem, 2019, 6, 5499-5510.	3.4	12
134	Computation of currents at microelectrodes using hp-DGFEM. Journal of Electroanalytical Chemistry, 2006, 587, 1-17.	3.8	11
135	The virtual physiological human: tools and applications I. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 1817-1821.	3.4	11
136	Relationship between structural changes and hyperpolarized gas magnetic resonance imaging in chronic obstructive pulmonary disease using computational simulations with realistic alveolar geometry. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2347-2369.	3.4	11
137	Integrated approach for the study of anatomical variability in the cardiac Purkinje system: From high resolution MRI to electrophysiology simulation. , 2010, 2010, 6793-6.		11
138	Separating the Effects of Experimental Noise from Inherent System Variability in Voltammetry: The [Fe(CN)₆]^{3â€“/4â€“} Process. Analytical Chemistry, 2019, 91, 1944-1953.	6.5	11
139	Finite element simulation of electrochemically reversible, quasi-reversible and irreversible linear sweep voltammetry at the wall tube electrode. Journal of Electroanalytical Chemistry, 2002, 531, 25-31.	3.8	10
140	Inference of Intramural Wavefront Orientation from Optical Recordings in Realistic Whole-Heart Models. Biophysical Journal, 2006, 91, 3957-3958.	0.5	10
141	Validity of the Cauchy-Born rule applied to discrete cellular-scale models of biological tissues. Physical Review E, 2013, 87, 042724.	2.1	10
142	Using Purely Sinusoidal Voltammetry for Rapid Inference of Surface-Confined Electrochemical Reaction Parameters. Analytical Chemistry, 2021, 93, 2062-2071.	6.5	10
143	Numerical Simulation of Alternating Current Linear Sweep Voltammetry at Microdisc Electrodes. Collection of Czechoslovak Chemical Communications, 2001, 66, 255-275.	1.0	10
144	High-throughput cardiac science on the Grid. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 3907-3923.	3.4	9

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145	The Role of Photon Scattering in Voltage-Calcium Fluorescent Recordings of Ventricular Fibrillation. Biophysical Journal, 2011, 101, 307-318.	0.5	9
146	A Comparison of Bayesian Inference Strategies for Parameterisation of Large Amplitude AC Voltammetry Derived from Total Current and Fourier Transformed Versions. ChemElectroChem, 2021, 8, 2238-2258.	3.4	9
147	Simulation of linear sweep voltammetry using an adaptive finite element algorithm. Journal of Electroanalytical Chemistry, 2004, 573, 169-174.	3.8	8
148	Multimodal Imaging Techniques for the Extraction of Detailed Geometrical and Physiological Information for Use in Multi-Scale Models of Colorectal Cancer and Treatment of Individual Patients. Computational and Mathematical Methods in Medicine, 2006, 7, 177-188.	1.3	8
149	Conformational Dynamics of a Lipid-Interacting Protein:â€‰ MD Simulations of Saposin B. Biochemistry, 2007, 46, 13573-13580.	2.5	8
150	Quiescence as a mechanism for cyclical hypoxia and acidosis. Journal of Mathematical Biology, 2007, 55, 767-779.	1.9	8
151	A Monte Carlo method to estimate cell population heterogeneity from cell snapshot data. Journal of Theoretical Biology, 2021, 511, 110541.	1.7	8
152	A Spotterâ€™s guide to dispersion in non-catalytic surface-confined voltammetry experiments. Journal of Electroanalytical Chemistry, 2021, 894, 115204.	3.8	8
153	High Performance Computer Simulations of Cardiac Electrical Function Based on High Resolution MRI Datasets. Lecture Notes in Computer Science, 2008, , 571-580.	1.3	8
154	The virtual physiological human: tools and applications II. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2121-2123.	3.4	7
155	Ten simple rules for surviving an interdisciplinary PhD. PLoS Computational Biology, 2017, 13, e1005512.	3.2	7
156	Functional Significance of Na+/Ca2+ Exchangers Co-localization with Ryanodine Receptors. Annals of the New York Academy of Sciences, 2007, 1099, 215-220.	3.8	6
157	AN ITERATIVE METHOD FOR REGISTRATION OF HIGH-RESOLUTION CARDIAC HISTOANATOMICAL AND MRI IMAGES. , 2007, , .		5
158	Barely sufficient practices in scientific computing. Patterns, 2021, 2, 100206.	5.9	5
159	A Voltammetric Perspective of Multi-Electron and Proton Transfer in Protein Redox Chemistry: Insights From Computational Analysis of Escherichia coli HypD Fourier Transformed Alternating Current Voltammetry. Frontiers in Chemistry, 2021, 9, 672831.	3.6	5
160	Using the Barthel Index and modified Rankin Scale as Outcome Measures for Stroke Rehabilitation Trials; A Comparison of Minimum Sample Size Requirements. Journal of Stroke and Cerebrovascular Diseases, 2022, 31, 106229.	1.6	5
161	Behaviour of the current in a membrane-covered disc microelectrode under steady-state conditions. Analyst, The, 1996, 121, 1863-1868.	3.5	4
162	Electrochemical Parameter Optimization Using Scientific Workflows. , 2010, , .		4

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163	Optimizing Peer Review of Software Codeâ€"Response. Science, 2013, 341, 237-237.	12.6	4
164	Problems with the Current Approach to the Dissemination of Computational Science Research and Its Implications for Research Integrity. Bulletin of Mathematical Biology, 2018, 80, 3088-3094.	1.9	4
165	Representation of Multiple Cellular Phenotypes Within Tissue-Level Simulations of Cardiac Electrophysiology. Bulletin of Mathematical Biology, 2019, 81, 7-38.	1.9	4
166	Learning transmission dynamics modelling of COVID-19 using comomodels. Mathematical Biosciences, 2022, 349, 108824.	1.9	4
167	Simulation of linear sweep voltammetry using an adaptive finite element algorithm. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 2004, 573, 169-174.	0.1	3
168	Vulnerability to electric shocks in the regionally-ischemic ventricles. , 2006, 2006, 2280-3.		3
169	On an infrastructure to support sharing and aggregating pre- and post-publication systems biology research data. Systems and Synthetic Biology, 2012, 6, 35-49.	1.0	3
170	Hierarchical Bayesian Modelling of Variability and Uncertainty in Synthetic Action Potential Traces. , 0, , .		3
171	A global sensitivity tool for cardiac cell modeling: Application to ionic current balance and hypertrophic signaling. , 2010, 2010, 1498-502.		2
172	Modules for Reusable and Collaborative Modelling of Biological Mathematical Systems. , 2012, , .		2
173	Simulated micro-electrode array recordings from stem cell-derived cardiomyocytes. Journal of Pharmacological and Toxicological Methods, 2016, 81, 380.	0.7	2
174	On the Secure Sharing and Aggregation of Data to Support Systems Biology Research. Lecture Notes in Computer Science, 2010, , 58-73.	1.3	2
175	P4-21. Heart Rhythm, 2006, 3, S225.	0.7	1
176	A Posteriori Error Analysis for the Use of Lookup Tables in Cardiac Electrophysiology Simulations. SIAM Journal of Scientific Computing, 2010, 32, 2167-2189.	2.8	1
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